

Amendments to the Claims

1. (Currently amended) A facet implant comprising:

a superior implant having an articulating surface and a fixation surface and being configured for placement on a superior articular facet of a vertebra of a human spine;

an inferior implant having an articulating surface and a fixation surface and being configured for placement on an inferior articular facet of a vertebra of a human spine and for interacting with a translaminar fixation mechanism; and

a translaminar fixation mechanism for securing the inferior implant to the inferior articular facet;

wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are configured to contact the other;

wherein the entire area of the articulating surface of the inferior implant that contacts the articulating surface of the superior implant is generally smooth;

wherein the entire area of the articulating surface of the superior implant that contacts the articulating surface of the inferior implant is generally smooth; and

wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are configured to articulate with the other in multiple directions while in contact with the other.

2. (Previously presented) The facet implant of claim 1 wherein the translaminar fixation mechanism comprises at least one of: a translaminar screw, a bolt or a fixation pin.

3. (Previously presented) The facet implant of claim 2 wherein the inferior implant is configured to interact with the translaminar fixation mechanism such that the translaminar fixation mechanism ranges from about 0 degrees to about 15 degrees offset.

4. (Previously presented) The facet implant of claim 1 wherein at least one of the superior implant or the inferior implant comprises a surface fixation mechanism.

5. (Previously presented) The facet implant of claim 4 wherein the surface fixation mechanism comprises at least one of: one or more pegs, one or more pips, ridges, or one or more screws.

6. (Previously presented) The facet implant of claim 4 wherein the surface fixation mechanism comprises multiple regions wherein each of the regions has at least one ridge oriented in a different direction than the ridges of the other regions.

7. (Previously presented) The facet implant of claim 1 wherein at least one of the fixation surfaces of the inferior implant and the superior implant has at least one of: a porous coating, a porous onlay material, a biologic coating, or a surface treatment.

8. (Previously presented) The facet implant of claim 1 wherein the articulating surface of the superior implant is generally curved.

9. (Previously presented) The facet implant of claim 1 wherein the fixation surface of the superior implant is generally curved.

10. (Previously presented) The facet implant of claim 1 wherein the articulating surface of the inferior implant is generally curved.

11. (Previously presented) The facet implant of claim 1 wherein at least one of the articulating surfaces of the inferior implant and the superior implant is composed of at least one of: cobalt-chromium alloy, ceramic, UHMWPE, pyrolytic carbon, or Ti/Al/V.

12. (Previously presented) The facet implant of claim 1 wherein the inferior implant ranges from about 2 mm thick to about 15 mm thick.

13. (Previously presented) The facet implant of claim 1 wherein the superior implant ranges from about 2 mm thick to about 15 mm thick.

14. (Currently amended) A facet implant comprising:

a superior implant having a fixation surface and a generally curved articulating surface, the superior implant being configured for placement on a resurfaced articulating surface of a superior articular facet of a vertebra of a human spine; and

an inferior implant having a fixation surface and a generally convex articulating surface, the inferior implant being configured for placement on a resurfaced articulating surface of an inferior articular facet of a vertebra of a human spine;

wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are configured to contact the other;

wherein the entire area of the articulating surface of the inferior implant that contacts the articulating surface of the superior implant is generally smooth;

wherein the entire area of the articulating surface of the superior implant that contacts the articulating surface of the inferior implant is generally smooth; and

wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are configured to articulate with the other in multiple directions while in contact with the other.

15. (Previously presented) The facet implant of claim 14 wherein at least one of the superior implant and the inferior implant comprises a surface fixation mechanism.

16. (Previously presented) The facet implant of claim 15 wherein the surface fixation mechanism comprises at least one of: one or more pegs, one or more pips, ridges, or one or more screws.

17. (Previously presented) The facet implant of claim 15 wherein the surface fixation mechanism comprises multiple regions wherein each of the regions has at least one ridge oriented in a different direction than the ridges of the other regions.

18. (Previously presented) The facet implant of claim 14 wherein at least one of the fixation surfaces of the inferior implant and the superior implant has at least one of: a porous coating, a porous onlay material, a biologic coating, or a surface treated to facilitate bone ingrowth.

19. (Previously presented) The facet implant of claim 14 wherein at least one of the articulating surfaces of the inferior implant and the superior implant is composed of at least one of: cobalt-chromium alloy, ceramic, UHMWPE, pyrolytic carbon, or Ti/Al/V.

20. (Currently amended) A facet implant comprising:

a superior implant having a fixation surface and a generally curved articulating surface, the superior implant being configured for placement on a resurfaced articulating surface of a superior articular facet of a vertebra of a human spine;

an inferior implant having a fixation surface and a generally convex articulating surface, the inferior implant being configured for placement on a resurfaced articulating surface of an inferior articular facet of a vertebra of a human spine and for interacting with a translaminar screw; and

a translaminar ~~screw fixation mechanism for adapted to securing~~ secure the inferior implant to the inferior articular facet and to bone on the side of the spinous process of the vertebra opposite the inferior implant via a lamina adjacent to the inferior articular facet;

~~wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are configured to contact the other;~~

~~wherein the entire area of the articulating surface of the inferior implant that contacts the articulating surface of the superior implant is generally smooth;~~

~~wherein the entire area of the articulating surface of the superior implant that contacts the articulating surface of the inferior implant is generally smooth; and~~

~~wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are configured to articulate with the other in multiple directions while in contact with the other.~~

21 – 40. (Canceled).

41. (Currently amended) A facet implant comprising:

superior means for providing an artificial articulating surface on a superior articular facet of a vertebra of a human spine;

inferior means for providing an artificial articulating surface on an inferior articular facet of a vertebra of a human spine that is configured for multiple direction articulation when in contact with the artificial articulating surface on the superior articular facet, ~~wherein the entire area of the artificial articulating surface on the superior articular facet that contacts the artificial articulating surface on the inferior articular facet is generally smooth, and wherein the entire area of the artificial articulating surface on the inferior articular facet that contacts the artificial articulating surface on the superior articular facet is generally smooth;~~ and

means for securing the inferior means to the inferior articular facet and to bone on the side of the spinous process of the vertebra opposite the inferior means via a lamina ~~connected to~~ adjacent the inferior articular facet.

42. (Previously presented) The facet implant of claim 41 wherein the means for securing the inferior means to the inferior articular facet comprises at least one of: a screw, a bolt or a fixation pin.

43. (Previously presented) The facet implant of claim 41 wherein at least one of the superior means or the inferior means comprises a surface fixation mechanism.

44. (Previously presented) The facet implant of claim 43 wherein the surface fixation mechanism comprises at least one of: one or more pegs, one or more pips, ridges, or one or more screws.

45. (Previously presented) The facet implant of claim 41 wherein at least one of the superior means or the inferior means comprises a fixation surface having at least one of: a porous coating, a porous onlay material, a biologic coating, or a surface treatment.

46. (Previously presented) The facet implant of claim 41 wherein at least one of the superior means or the inferior means comprises an articulating surface composed of at least one of: cobalt-chromium alloy, ceramic, UHMWPE, pyrolytic carbon, or Ti/Al/V.

47. (Currently amended) A facet implant comprising:

superior means for providing an artificial articulating surface on a superior articular facet of a vertebra of a human spine, the superior means having a fixation surface and an articulating surface, the superior means being configured for placement on a resurfaced articulating surface of a superior articular facet such that the superior means primarily contacts only the articulating surface of the superior articulating facet; and

inferior means for providing an artificial articulating surface on an inferior articulating facet of a vertebra of a human spine that is configured for multiple direction articulation with the artificial articulating surface on the superior articular facet, the inferior means having a fixation surface and an articulating surface, the inferior means being configured for placement on a resurfaced articulating surface of an inferior articular facet such that the inferior means primarily contacts only the articulating surface of the inferior articulating facet;

wherein the generally curved artificial articulating surface of the superior articular facet and the generally convex artificial articulating surface of the inferior articular facet are configured for articulation in multiple directions while the artificial articulating surface of the superior articular facet and the artificial articulating surface of the inferior articular facet contact with one another;

wherein the entire area of the artificial articulating surface on the superior articular facet that contacts the artificial articulating surface on the inferior articular facet is generally smooth; and

wherein the entire area of the artificial articulating surface on the inferior articular facet that contacts the artificial articulating surface on the superior articular facet is generally smooth.

48. (Previously presented) The facet implant of claim 47 wherein at least one of superior means or the inferior means comprises a surface fixation mechanism.

49. (Previously presented) The facet implant of claim 48 wherein the surface fixation mechanism comprises at least one of: one or more pegs, one or more pips, ridges, or one or more screws.

50. (Previously presented) The facet implant of claim 47 wherein at least one of the superior means or the inferior means comprises a fixation surface having at least one of: a porous coating, a porous onlay material, a biologic coating, or a surface treatment.

51. (Previously presented) The facet implant of claim 47 wherein at least one of the superior means or the inferior means comprises an articulating surface composed of at least one of: cobalt-chromium alloy, ceramic, UHMWPE, pyrolytic carbon, or Ti/Al/V.

52. (Previously presented) The facet implant of claim 47 further comprising means for securing the inferior means to the inferior articular facet via a lamina connected to the inferior articular facet.

53. (Currently amended) A facet implant comprising:

a superior implant for providing an artificial articulating surface on a superior articular facet of a vertebra of a human spine, the superior implant having a fixation surface and an articulating surface, the superior implant being configured for placement on a specifically prepared articulating surface of a superior articular facet such that the superior implant primarily contacts only the articulating surface of the superior articulating facet; and

an inferior implant for providing an artificial articulating surface on an inferior articulating facet of a vertebra of a human spine that is configured for multiple direction articulation with the artificial articulating surface on the superior articular facet provided by the superior implant, the inferior means having a fixation surface and an articulating surface, the inferior implant being configured for placement on a specifically prepared articulating surface of an inferior articular facet such that the inferior implant primarily contacts only the articulating surface of the inferior articulating facet;

wherein the articulating surface of the superior implant and the articulating surface of the inferior implant are configured for articulation in multiple directions while the generally surface of the superior implant contacts the articulating surface of the inferior implant;

wherein the entire area of the artificial articulating surface on the superior articular facet that contacts the artificial articulating surface on the inferior articular facet is generally smooth; and

and wherein the entire area of the artificial articulating surface on the inferior articular facet that contacts the artificial articulating surface on the superior articular facet is generally smooth.

54. (Previously presented) The facet implant of claim 53 wherein at least one of the superior implant or the inferior implant comprises a surface fixation mechanism.

55. (Previously presented) The facet implant of claim 54 wherein the surface fixation mechanism comprises at least one of: one or more pegs, one or more pips, ridges, or one or more screws.

56. (Previously presented) The facet implant of claim 53 wherein at least one of the superior implant or the inferior implant comprises a fixation surface having at least one of: a porous coating, a porous onlay material, a biologic coating, or a surface treatment.

57. (Previously presented) The facet implant of claim 53 wherein at least one of the superior implant or the inferior implant comprises an articulating surface composed of at least one of: cobalt-chromium alloy, ceramic, UHMWPE, pyrolytic carbon, or Ti/Al/V.

58. (Previously presented) The facet implant of claim 53 further comprising means for securing the inferior implant to the inferior articular facet via a lamina connected to the inferior articular facet.

59. (Previously presented) The facet implant of claim 1 wherein the translaminar fixation mechanism is configured to traverse a lamina connected to the inferior articular facet.

60. (Previously presented) The facet implant of claim 14 wherein the inferior implant is configured to engage a translaminar fixation mechanism that traverses a lamina connected to the inferior articular facet.

61. (Previously presented) The facet implant of claim 20 wherein the translaminar fixation mechanism is configured to traverse a lamina connected to the inferior articular facet.

62. Canceled.

63. (Currently amended) A facet implant comprising:

a superior implant having an articulating surface and a fixation surface and being configured for placement on a superior articular facet of a vertebra of a human spine;

an inferior implant having an articulating surface and a fixation surface and being configured for placement on an inferior articular facet of a vertebra of a human spine and for interacting with a translaminar fixation mechanism; and

a fixation mechanism adapted to secure the inferior implant to the inferior articular facet by traversing a lamina connected to the inferior articular facet such that the inferior implant is secured to bone on the side of the spinous process of the vertebra opposite the inferior implant.;

wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are adapted to contact the other;

wherein the entire area of the articulating surface of the inferior implant that contacts the articulating surface of the superior implant is generally smooth;

wherein the entire area of the articulating surface of the superior implant that contacts the articulating surface of the inferior implant is generally smooth; and

wherein the articulating surface of the inferior implant and the articulating surface of the superior implant are adapted to articulate with the other in multiple directions while in contact with the other.